Topic 06 – Hypertension / Vascular disease

January 18th, Friday 2013

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Death and cardiovascular events in patients with acute coronary syndrome and abdominal aortic aneurysm

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Background: Abdominal aortic aneurysm (AAA) is associated with peripheral and coronary artery disease (CAD), however little is known about the prognosis of patients who experienced an acute coronary syndrome (ACS) and have an AAA. The aim of this study was to assess the prevalence of AAA in patients hospitalized for ACS and to evaluate it was associated with an increased cardio-vascular (CV) risk during follow up.

Methods: Between February 1, 2008 and March 30, 2009, patients admitted for ACS with significant (≥50% stenosis) coronary lesions underwent echography to check for presence of AAA. The AAA was defined as dilation of infrarenal aorta with maximum antero-posterior diameter ≥30 mm. During a 2 years follow-up we recorded all causes death, CV death and non-fatals CV events. The combination of CV death and CV non-fatals events was defined as the primary endpoint.

Results: Among 306 patients, 20 AAAs (6,6%) were diagnosed, of average (±sd) diameter 33±3.7 mm, with a maximum diameter of 45 mm, non requiring surgery. Follow-up at 2 years was available for 292 patients (95,7%). During follow-up, 77 patients (25,5%) experienced an event (all causes death or non-fatals CV event) : 23 deaths (7,6%), of wich 16 were from CV cause, and 55 non-fatals CV event (18,2%). No event was due to AAA. In univariate analysis age, abdominal aortic diameter, diabetes mellitus, previously known CAD and AAA were significantly associated with fatal and non-fatal CV event ($p<0,05$). In multivariate analysis, age (OR=1.03; 95%CI (1.008,1.058), diabetes mellitus (OR=1.7; 95%CI (1.05,2.7) and AAA (OR=3.2; 95%CI (1.24,8.44) were independantly associated with the risk of fatal or non-fatal CV event. Age (OR=1.18 95%CI (1.10,1.26) and AAA (OR=4.17 95%CI (1.17,14.9) were the only independant predictors of all causes death.

Conclusion: Our results show that in patients with CAD, the presence of small non surgical AAA is associated with worse CV prognosis and higher all causes mortality at 2 years.

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Efficacy and cost-effectiveness of reinterventions for type 2 endoleak with enlargement of the aneurysmal sac after endovascular abdominal aortic aneurysm

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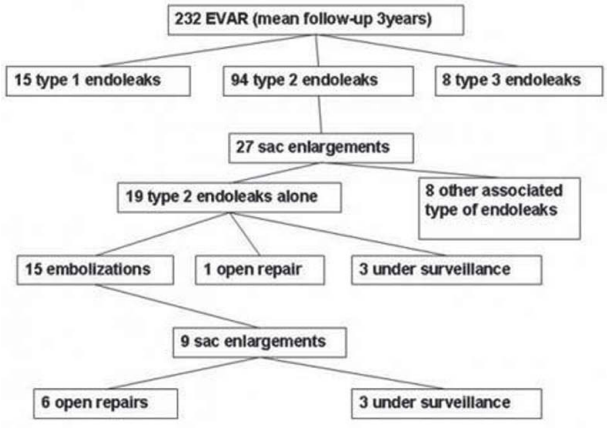
Background: Type 2 endoleaks after endovascular aortic repair (EVAR) still represent a problematic issue for vascular surgeon to stop the aneurysmal degeneration of the unsuccessfully excluded aneurysm. This study was designed to assess the efficacy of secondary interventions performed on continuing expanding abdominal aortic aneurysms (AAA) after EVAR with an identified type 2 endoleak.

Methods: We retrospectively reviewed patients treated by EVAR for AAA, in which follow-up data of more than 1 year were available. Endoleak incidences, sac diameters, and secondary procedures were collected. Patients with type 2 endoleaks and continuing expanding AAA were identified. Primary endpoint was the efficacy of these reinterventions on the postoperative AAA diameter course. Secondary endpoints were the aneurysm-related morbidity and mortality, and the cost effectiveness of these complementary procedures.

Results: Out of 232 reviewed patients treated by EVAR for AAA, with a mean follow-up of 3 years (37±30 months), 15 type 1 (6.5%), 94 type 2 (40.5%), and 8 type 3 (3.5%) endoleaks were identified. Among the 94 AAA with a type 2 endoleak, 21 presented a sac regression (22.5%), 46 were stable (49.5%), and 27 presented a sac enlargement (28%). Eight of these last subgroup of patients had another type of endoleak associated that required particular treatments. Among the 19 patients presenting a type II endoleak responsible for sac enlargement, 15 were indicated for embolisation procedures, 1 was treated by immediate open repair, and 3 are still under surveillance. Among the 15 patients treated by embolisation, 9 (60%) had still an aortic sac enlargement postoperatively, requiring finally 6 open repairs with one postoperative death. The mean extra cost by patient induced by secondary procedures for type 2 endoleak was 27110±3098 Euros.

Conclusion: In our experience, endovascular reinterventions for type 2 endoleaks associated with an aortic sac enlargement after EVAR have a poor efficiency on the stabilization of AAA diameter. These procedures entail extra costs and morbidity that should be taken into account in their indication.



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Interpreting troponin elevation in relation to symptom onset in intermediate-risk pulmonary embolism

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Background: Troponin elevation in the setting of acute pulmonary embolism (PE) is of small magnitude and short duration and can go unnoticed in pts referred late after symptom onset.

Methods: Prospective, single-center registry of pts with confirmed intermediate-risk PE, defined as at least 1 echocardiographic finding of right ventricular (RV) dysfunction (endo-diastolic (EDRV)/left ventricular (EDLV) end-diastolic diameter ratio >=1 in the 4-chamber view, paradoxical septal systolic motion or pulmonary hypertension defined as RV/atrial gradient >30mmHg), or positive troponin test. Combined in-hospital endpoint was defined as death, non-fatal recurrent PE, or residual pulmonary vascular obstruction (RPVO) ≥35%.

Results: 282 pts were included, age 66±14 years, 59% women, 174 (62%) referred ≤5 days after symptom onset, 108 (38%) after >5 days. Troponin elevation was observed in 126 (72%) treated within ≤5 days, in 60 (56%) treated

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